

List of Contents

NUMBER 1

Ram Rachamadugu and Qiang Tu 1 Period batch control for group technology—an improved procedure

C. S. Sung and S. K. Lim 9 A scheduling procedure for a general class of resource-constrained projects

H. A. Eiselt, C.-L. Sandblom and C. Barnsley 19 A computational investigation into shapes of polyhedra

Kai A. Olsen, Per Sætre and Anders Thorstenson 29 A procedure-oriented generic bill of materials

Zhao Xiaobo and Katsuhisa Ohno 47 Algorithms for sequencing mixed models on an assembly line in a JIT production system

Vedran Mornar and Behrokh Khoshnevis 57 A cutting stock procedure for printed circuit board production

Shouhong Wang 67 Neural networks in generalizing expert knowledge

Azim Houshyar and Bob White 77 Comparison of solution procedures to the facility location problem

Jaejin Jang, Pyung-Hoi Koo and Shimon Y. Nof 89 Application of design and control tools in a multi-robot cell

R. C. Baker and Srinivas Talluri 101 A closer look at the use of data envelopment analysis for technology selection

Ilkyeong Moon and Wonyoung Yun 109 The distribution free job control problem

K. K. Lai and Jimmy W. M. Chan 115 Developing a simulated annealing algorithm for the cutting stock problem

Amar Dev Amar 129 Costs in design of scheduling algorithms: a study on branch-and-bound methodology

Kun-Jen Chung 139 Bounds for production lot sizing with machine breakdowns

Roger J. Gagnon and Chwen Sheu 145 A strategic MIGP model for acquiring advanced technologies

Contents

**Nasser Aljaber,
Wonjang Baek and
Chuen-Lung Chen** 169 A tabu search approach to the cell formation problem

**Mhand Hifi and
Rachid Ouafi** 187 Best-first search and dynamic programming methods for cutting problems: the cases of one or more stock plates

**Youkyung Won
and Sehun Kim** 207 Multiple criteria clustering algorithm for solving the group technology problem with multiple process routings

R. G. Kasilingam 221 An economic model for air cargo overbooking under stochastic capacity

**Nudtapon Nudtasomboon
and Sabah U. Randhawa** 227 Resource-constrained project scheduling with renewable and non-renewable resources and time-resource tradeoffs

I Announcement

NUMBER 2

Semra Tunali 243 Evaluation of alternative routing policies in scheduling a job-shop type FMS

**Yasser Dessouky and
Chell A. Roberts** 251 A review and classification of combined simulation

**Sekar Vembu and
G. Srinivasan** 265 Heuristics for operator allocation and sequencing in product-line-cells with manually operated machines

Y.-F. Hung and Q.-Z. Wang 281 A new formulation technique for alternative material planning—an approach for semiconductor bin allocation planning

W. M. Sing and K. P. Rao 299 Knowledge-based process layout system for axisymmetrical deep drawing using decision tables

**Kyungchul Park,
Sungsoo Park and
Wanhee Kim** 321 A heuristic for an assembly line balancing problem with incompatibility, range, and partial precedence constraints

C. S. Sung and U. G. Joo 333 Batching to minimize weighted mean flow time on a single machine with batch size restrictions

**Robert Cimikowski and
Edward Mooney** 341 Proximity-based adjacency determination for facility layout

**Heungsoon Felix Lee and
Samantha K. Schaefer** 351 Sequencing methods for automated storage and retrieval systems with dedicated storage

Contents

Rebecca W. Boren, William C. Moor and Mary R. Anderson- Rowland	363 Optimal number of choices per menu for naive users of a computer-answered telephone system
Denis Ridley	371 Optimal weights for combining antithetic forecasts
Der-Baau Perng and Chao-Fan Chang	383 A new feature-based design system with dynamic editing
Dimitri Golenko-Ginzburg and Vladimir Kats	399 A generalized control model for man-machine production systems with disturbances
Muhammad H. Al-Haboubi and Shokri Z. Selim	419 A design to minimize congestion around the Ka'aba
Dijin Gong, Mitsuo Gen, Genji Yamazaki and Weixuan Xu	429 Lagrangian ANN for convex programming with linear constraints
Yong Deok Noh	445 Computational algorithm for an M -stage open tandem queue with blocking and feedback operation
Kelwyn A. D'Souza and Suresh K. Khator	455 System reconfiguration to avoid deadlocks in automated manufacturing systems
C. Alec Chang, Chih-Chung Lo and Kuang-Han Hsieh	467 Neural networks and Fourier descriptors for part positioning using bar code features in material handling systems
P. Gu, S. Balasubramanian and D. H. Norrie	477 Bidding-based process planning and scheduling in a multi-agent system

NUMBER 3

Chien H. Wang, Ram D. Gopal and Y. Alex Tung	497 Diffusion of ladder-type innovations: a study of computer and communications convergence
E. C. Martínez, D. Duje and G. A. Pérez	509 On performance modeling of project-oriented pro- duction
J. Edwards and P. R. Gibson	529 Integrated multi-media computers in the execution of ISO9000 Quality System requirements for document control and training
Ramesh V. Narang	539 Recognition of neutral features for multiple domain analysis
Brian M. Kleiner	545 An integrative framework for measuring and evaluat- ing information management performance

Contents

**Subhash Wadhwa,
Rahul Caprihan and
Satish Kumar** 557 Performance of a hysteresis based control strategy for a flexible machine operating under a periodic status monitoring policy

**Guoqiang Zhang and
Victor Berardi** 575 Economic statistical design of \bar{X} control charts for systems with Weibull in-control times

**Kuo-Hsiung Wang and
Ming-Yi Kuo** 587 Profit analysis of the $M/E_k/1$ machine repair problem with a non-reliable service station

W. C. Ng and J. Leung 595 Determining the optimal move times for a given cyclic schedule of a material handling hoist

Jonathan F. Bard 607 Benchmarking simulation software for use in modeling postal operations

Amjad Al-Ghanim 627 An unsupervised learning neural algorithm for identifying process behavior on control charts and a comparison with supervised learning approaches

**Herbert Moskowitz and
Kwang Jae Kim** 641 QFD optimizer: a novice friendly quality function deployment decision support system for optimizing product designs

**Tariq A. Aldowaisan and
Lotfi K. Gaafar** 657 A framework for developing technical process reengineering designs

**Sanjay Sharma and
C. M. Sadiwala** 671 Effects of lost sales on composite lot sizing

**Amjad M. Al-Ghanim and
Lonnie C. Ludeman** 679 Automated unnatural pattern recognition on control charts using correlation analysis techniques

I Announcements

NUMBER 4

**Nancy Gautreau,
Soumaya Yacout
and Réjean Hall** 691 Simulation of partially observed Markov decision process and dynamic quality improvement

Kap Hwan Kim 701 Evaluation of the number of rehandles in container yards

**Liu Hong, Zeng Guangzhou
and Lin Zongkai** 713 A system of optimizing nesting with analogical learning mechanism

**Yi-Chih Hsieh and
Dennis L. Bricker** 727 Scheduling linearly deteriorating jobs on multiple machines

Contents

Ali Allahverdi and M. Fatih Tatari	735 Stochastic machine dominance in flowshops
Saeid Motavalli and Anwar-ul Islam	743 Multi-criteria assembly sequencing
Peter A. Huegler and Francis J. Vasko	753 A performance comparison of heuristics for the total weighted tardiness problem
Jerome P. Lavelle, James R. Wilson, Harvey J. Gold and John R. Canada	769 A method for the incorporation of parametric uncertainty in the weighted evaluation multi-attribute decision analysis model
Chih-Chou Chiu, Deborah F. Cook, Jen-Lung Kao and Yu-Chao Chou	787 Combining a neural network and a rule-based expert system for short-term load forecasting
Jong-hwan Kim and Dong-wan Tcha	799 Approximate analysis of finite fork/join queueing networks
Timon Chih-Ting Du and Philip M. Wolfe	811 Overview of emerging database architectures
Mohamed A. Ahmed, Talal M. Alkhamis and Merza Hasan	823 Optimizing discrete stochastic systems using simulated annealing and simulation
Yu Cheng	837 A knowledge-based airport gate assignment system integrated with mathematical programming
Note	
Myun W. Lee	853 Cubic dream: globalization of IE

NEW ADVANCES IN ANALYSIS OF MANUFACTURING SYSTEMS

Abhijit V. Deshmukh, William F. Fulkerson, David Sinreich and H. P. (Ben) Wang	865 Preface
Valerie Tardif and Mark L. Spearman	867 Diagnostic scheduling in finite-capacity production environments
Kathy A. Paulson Gjerde and Susan A. Slotnick	879 A multidimensional approach to manufacturing quality
Nazario D. Ramirez-Beltran and Tep Sastri	891 Transient detection with an application to a chemical process
Sherman X. Bai and Mohsen Elhafsi	909 Scheduling of an unreliable manufacturing system with nonresumable setups

Contents

James H. Bookbinder and Michael D. Kirk	927	Lane selection in an AGV-based asynchronous parallel assembly line
Shih-Yu Wei, Chih-Chung Lo and C. Alec Chang	939	Using throughput profit for selecting manufacturing process plan
Karim N. Taleb and Surendra M. Gupta	949	Disassembly of multiple product structures
Announcements	1	

